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Journal of Issues in **Intercollegiate Athletics**

The Football Factor: Shaping Community on Campus

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Many American universities continue to invest in expensive intercollegiate football programs, and specifically cite the sport's ability to foster a sense of community (SOC) as justification for the cost. This study sought to assess the importance of SOC and the influence of football on the cultivation thereof. A pre-post test design utilizing an online survey compared SOC levels for students ($N = 886$) before and after the implementation of Division I football on a large university campus. No significant differences were found in SOC levels before and after the football season (regardless of attendance). Post-test SOC perceptions differed based on game attendance (i.e., moderate and loyal attendees reported the highest levels). Finally, SOC had a moderate to strong positive influence on four outcome variables: Satisfaction, Retention, Current Support of Athletics, and Future Support for Athletics. This study suggests that while SOC is very important to students, at least in the short term the introduction of a football program does not foster a greater SOC for all students.

Introduction

In American society where levels of informal social connectedness are rapidly decreasing and levels of social isolation are increasing, the need and desire for creating a sense of community (SOC) is becoming progressively more important (McPherson, Smith-Lovin, & Brashears, 2006; Putnam, 2000). This is certainly also true on college campuses (cf. Boyer, 1990; McDonald, 2002) where SOC consistently has been linked to positive student outcomes

such as lower drug use, better academic performance, and higher student retention (Battistich & Hom, 1997; McCarthy, Pretty, & Catano, 1990; Warner & Dixon, 2011, in press). While SOC is important in its own right for improving life quality, colleges and universities also view it as an important means to attract, and particularly to retain students. Students' SOC increases the attractiveness and support of a campus, and consequently their desire to remain at that university (Clopton, 2008, 2009; Hausmann, Scholfield, & Ward, 2007; McCarthy et al., 1990; Tinto, 1993; Warner & Dixon, 2011, in press). In fact, many universities devote entire student services or "college life" divisions to the mission of increasing SOC on campus (see Nuss, 2003).

For years, universities have utilized sport as a tool for enhancing SOC on campus. Sport has been utilized in two primary ways—for participants and for fans. That is, varsity, club sport, and intramural offerings are utilized to create SOC for students who might enjoy participating in sport. Similar to other clubs or groups, participating in sports creates opportunities for students to connect with other students with common interests (Warner & Dixon, 2011, in press). For fans, sport is thought to provide a place for people to connect by attending the games together, and as a point of central identity for the campus (Clopton, 2009; Heere & James, 2007; Swyers, 2005; Toma, 2003; Toma & Cross, 1998).

Football, in particular, has been the sport of choice for creating a campus-wide SOC for students and fans. While other benefits such as revenue generation and image enhancement have been sought and attributed to football, fostering SOC is the most pervasive and consistent claim throughout the history of college sport (Chang & Canode, 2002; Chu & Solomon, 1986; Roy, Graeff, & Harmon, 2008; Toma, 2003; Zimbalist, 2001). University leaders have argued that football is instrumental, perhaps invaluable, to building a strong SOC on campus. As Chu (1989) stated, "By affiliating with that [university] team, by caring for its scores, we declare allegiance to an interest greater than oneself – the community" (p. 160). Over the past century, colleges and universities have invested significant sums of money in their football programs in large part because football is thought to impact SOC and ultimately student recruitment and retention (Chu, 1989; Toma & Cross, 1998). In fact, in just the past five years, at least 38 colleges and universities have decided to add football to their campus athletic offerings (Kelly, 2010). Not surprisingly, building a SOC was a common benefit claimed by these universities as they sought approval for establishing these new and costly football programs.

In spite of these strong sentiments, there is little empirical evidence that ties football directly to students' SOC (cf. Clopton, 2007, 2008, 2009). Studies that have examined the relationship between a football program (or athletic department) and campus SOC have taken place on campuses where football (and any potential increases in SOC derived as a result of football) were already established (e.g., Clopton, 2007, 2008; Warner, 2010; Warner & Dixon, 2011). These studies have not, however, examined an actual change in SOC before and after a football program was implemented. On campuses that already host a football program, it is difficult to disentangle the unique contribution that football might have in fostering a SOC. The first goal of this study, therefore, was to examine the distinct impact of football, if any, on students' SOC before and after its implementation.

The second purpose of this paper is to examine the people/groups who are impacted by football. Some authors claim that community benefits from sport are probably limited to those who participate and/or attend games (cf. Sperber, 2000; Zimbalist, 2001). Many others, however, claim the impact is broader, affecting the SOC of nearly the entire campus community (e.g., Chu, 1989; Roy et al., 2008; Toma, 2003). Clearly this is a discrepancy that deserves empirical testing.

Theoretical Framework and Hypothesis Development

Figures 1 and 2 depict the relationships examined in the current study. In this section, each of the pathways and accompanying hypotheses will be explicated. SOC, although it can be experienced at both an individual or group level (Pretty, Andrewes, & Collett, 1994), is defined as a community characteristic that leads to community members feeling a sense of belonging and a sense that support is available at the group level (Chavis, Hogge, McMillan, & Wandermans, 1986). It is setting and context specific (Hill, 1996; Puddifoot, 1996; Warner & Dixon, 2011, in press) and consequently has been studied across a variety of settings including neighborhoods, workplaces, community organizations, and university campuses. In each setting, specific community characteristics and/or environmental changes have been found to either foster or inhibit SOC among community members. Thus, it is vital to continue to probe the community characteristics and environmental factors that aid in facilitating SOC.

Figure 1 - *The Impact of Intercollegiate Football on College Sense of Community*

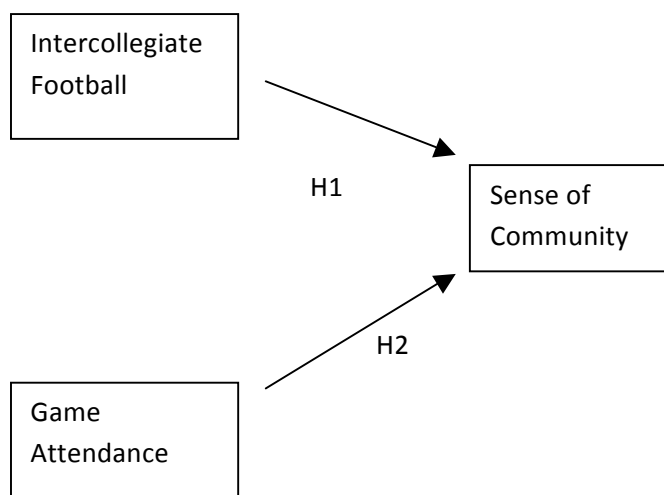
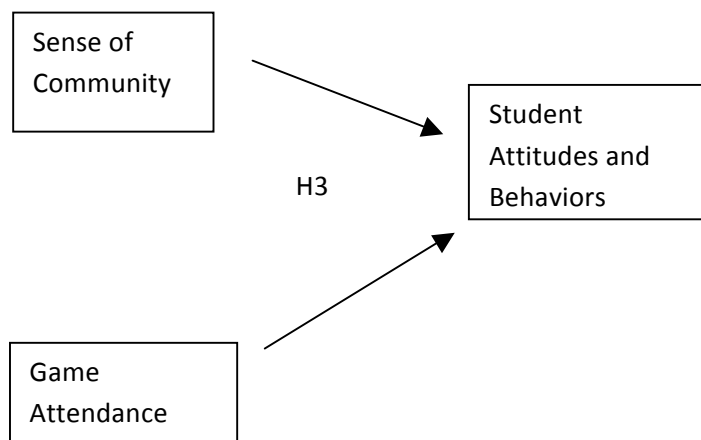


Figure 2 - *College Sense of Community and Game Attendance on Student Attitudes and Behaviors*



University campuses are one of the many contexts that can benefit from such study. As noted, many campuses have entire divisions whose directive is to create a positive and engaging campus community by understanding and managing the relevant community and environmental characteristics that most impact the student experience (see Nuss, 2003, Tinto, 1993). Intercollegiate athletics has evolved from this idea, and many *claim* that football is a vital community characteristic that creates SOC on college campuses, citing that football serves to strengthen student identity with the institution (Feezell, 2009; Toma, 2003). However, the evidence directly linking football to students' SOC is limited.

On campuses that already host a football program, it is difficult to assess the actual impact of football on SOC because the football program is already an integrated community characteristic of the campus. However, when university officials decide to add football for the first time (or reinstate it after a long absence), there is a unique opportunity to examine how this specific community characteristic and environmental change on campus impacts SOC for its members. After an almost 70-year hiatus, college football returned to Old Dominion University's (ODU) campus in the fall of 2009. As a result, it provided an appropriate setting to examine how the introduction of a football program to the campus environment might impact students' SOC.

Football on college campuses is thought to humanize the institution through providing a point of attachment, building a common identification, and expressing the collegiate ideal through celebratory rituals on football Saturdays (Toma, 2003). Thus, it was hypothesized that this change would result in an enhanced SOC for students. Toward this end, the first hypothesis (H1) was:

H1: The introduction of football will increase students' levels of SOC from the pre-season (prior to the introduction of football) to the post-season (after the introduction of football).

Previous literature has also highlighted the importance of membership and social spaces in enhancing SOC. McMillan and Chavis' (1986) seminal work included membership as one of four components that comprise SOC. Furthermore, the group solidarity literature suggests that a mutual cause can promote the feelings of membership that McMillan and Chavis described

(Simons & Taylor, 1992). One could conclude that attendance at games and supporting a particular team creates a mutual cause that would likely prompt feelings of membership and consequently, greater levels of SOC. Clopton's (2008) work supports this notion. His research concluded that greater fan identification was related to stronger feeling of SOC for college students at major Division I football universities.

Research has also suggested that social spaces are important in creating SOC (Swyers, 2005, 2010; Warner & Dixon, 2011). That is, having defined locations where community members can gather promotes social interactions and ultimately fosters a SOC. Sport creates opportunities for social spaces where individuals feel they can go to be a part of the group (Swyers, 2005; Warner & Dixon, 2011). For participants social spaces could be a team lounge, locker room, or dining area (Warner & Dixon, 2011). For fans these can include specific viewing locations, student sections, and/or tailgating locations (Clopton, 2009; Melnick, 1993; Swyers, 2005, 2010).

Football may create an overall greater SOC on campus, and it is likely that those who attend the games will actually have a stronger felt SOC than those who do not because they will have greater exposure to salient social spaces and they will be more involved (membership and mutual cause) in the experience. Therefore, the second hypothesis (H2) was:

H2: Students who attend football games will experience greater SOC than those who do not attend (i.e., non-attendees).

SOC has been connected with numerous positive outcomes and benefits in various settings. For example, SOC has been associated with increases in subjective well-being, commitment, retention, and civic participation (Chavis & Wandersman, 1990; Davidson & Cotter, 1991; Warner, 2010). It has also been correlated with decreased levels of loneliness, delinquency rates, drug use, and role conflict (Battistich & Hom, 1997; Pretty et al., 1994; Royal & Rossi, 1996). Specifically on college campuses, increased levels of SOC have been linked to students living on campus, fraternity/sorority members, and club and varsity sport participation (Lounsbury & Deneui, 1995; Warner, 2010; Warner & Dixon, 2011, in press). This is of importance due to the fact that a strong SOC has been associated with reduced incidences of student burnout, which in turn is related to better academic performance (McCarthy et al., 1990). In summation, the literature points to people experiencing SOC in positive terms and thereby linking it to numerous beneficial outcomes.

Furthermore, student engagement is likely associated with positive perceptions of the collegiate experience and future involvement with the campus. For example, according to Astin's (1999) Theory of Student Involvement, the more a student is engaged in the college experience, with activities such as extracurricular activities or joining a social club, the greater the amount of student learning and development will occur. This theory is supported by literature on participation in university rituals (Beyer & Hannah, 2000; Stein, 1983; Toma, Dubrow, & Hartley, 2005) and sport spectating research (see Melnick, 1993), which posit that a connection between game attendance and positive student outcomes and future support for athletics would likely exist.

In previous study designs, it has been difficult to disentangle the SOC that is specific to sport and that which has a more general impact on the college campus. Still, it seems likely that SOC may have both sport specific and broader attitudinal and behavioral implications. Thus, the third hypothesis (H3) was:

H3: SOC and game attendance will be positively related to a) Satisfaction (pleased with being a student at ODU), b) Retention (plan to continue one's education at ODU), c) Current Support for Athletics (plan to attend sporting events other than football at ODU) and d) Future Support for Athletics (intend to donate to the ODU Athletic Department in the future).

Research Setting: Old Dominion University

Old Dominion University, located in Norfolk, Virginia is a large public university that currently enrolls over 23,000 students (Carnegie Classifications = Research University, Large Four Year, Primarily Non-Residential). The University fielded an intercollegiate football team from 1930 to 1941; however, the team was disbanded after eligibility issues, financial problems, and low attendance. Efforts from students and alumni to revive the sport were made in every decade since the 1940's, but these efforts were consistently met with resistance from ODU presidents (see Old Dominion Libraries, 2009). After numerous attempts to restart the football program and several surveys confirming student and alumni interest, in 2005 the ODU Board of Visitors unanimously approved a plan to begin playing football at the Football Championship Series (FCS) level. The plan included the provisions that consultants conduct a feasibility study, pledges for at least \$8 million for a football endowment be raised, and land be secured for football facilities (Waldrop, 2009).

A 2005 feasibility study indicated widespread support for and a willingness to contribute to a football program, and by 2006, a confidence-boosting \$6 million had been raised. The school already had a viable on-campus stadium in 73-year-old Foreman Field, which would need to be renovated but was deemed structurally sound, and worked out a land-swap deal with the City of Norfolk for additional practice facilities. In May 2006, ODU announced it would start football, with its first game slated for 2009. (Waldrop, 2009)

A football program at ODU was supported at various levels, as the community, alumni, and students helped to shoulder the costs. "In 2007, Old Dominion imposed a new annual fee of \$450 per student not only to help cover the operating costs and debt service for football and its facilities, but also to pay for the addition of three women's teams to satisfy gender-equity requirements" (Sanders, 2010). On September 5, 2009 intercollegiate football officially returned to ODU as it hosted Chowan University in its inaugural home opener and many believed the new football program would foster a SOC on campus.

Method

Research Design

In order to examine the potential influence of the inaugural ODU football season on SOC perceptions and the impact of these perceptions on related outcomes, a pre-post test design was used. The pre-post test design provided an opportunity to assess SOC perceptions prior to the first game and after the conclusion of the season¹. Additionally, the current study utilized correlation and regression methods to examine relationships between SOC, football game attendance, and student outcome measures.

Participants

The sample for this study consisted of current ODU students at various stages in their academic careers. Two student samples were used in this investigation. First, a random sample of 5,000 students from the general student population was generated. Second, a purposive sample of 2,113 students who had tickets to the first home football game was generated. The two samples helped to ensure an adequate number of football game attendees and non-attendees for comparison. A total of 1,668 usable pre-test surveys were completed for a response rate of 23.5%. Of the 1,668 students who completed the pre-test, 866 completed the post-test for a response rate of 51.9%.

Procedure

Questionnaires were administered through an online format and were sent to a random sample within the general student population and a purposive sample of student ticket holders three weeks prior to the first home game. Each potential participant received an introductory e-mail explaining the purpose of the study along with a link to the web-based pre-test survey. The students who completed the pre-test were then sent a post-test online survey approximately one week after the conclusion of the season. In effort to increase the response rate follow up emails were sent approximately ten days after both the pre and post tests.

Instrumentation

The questionnaire used for the current study contained three sections with a total of 34 items. The first section had ten items which focused on demographics and game attendance in order to profile the typical student. The second section measured SOC on campus through a modified version of the Campus Atmosphere Scale (CAS) developed by Lounsbury and DeNeui (1995, 1996; see Table 1). This scale has been utilized in previous research to measure SOC on college campuses (e.g., Clopton 2007, 2008; Lounsbury & DeNeui, 1995).

The 14-item CAS (using 5 point Likert-type items ranging from 1=Strongly Disagree to 5=Strongly Agree) has shown satisfactory reliability in previous research with alpha coefficient scores ranging from .90 to .93 (Clopton, 2008; Lounsbury & DeNeui, 1995, 1996). However, limited information exists concerning the validity (particularly factor and convergent) of the scale. Thus, validity assessment was an important part of the data analysis process within the current study.

Table 1 - *Campus Atmosphere Scale (CAS)*

Factors and Items

Regarding this college university:

- SC1 I really feel like I belong here.
 - SC2 There is a sociable atmosphere on campus
 - SC3 I wish I had gone to another college instead of this one.
 - SC4 Students feel they can get help if they are in trouble.
 - SC5 I would recommend this college to students in my high school.
 - SC6 My parents like this college.
 - SC7 There is a strong feeling of togetherness on campus.
 - SC8 I someday plan to give alumni contributions to this college.
 - SC9 I really enjoy going to school here.
 - SC10 Students here really care about what happens to this college.
 - SC11 I feel very attached to this college.
 - SC12 Campus life is very stimulating.
 - SC13 If I am/were going to college next year, I would go here.
 - SC14 There is a real sense of community here.
-

Lounsbury, J.W. * & Deneui, D. (1996). Collegiate psychological sense of community in relation to size of college/university and extroversion. *Journal of Community Psychology*, 4, 381-394.

A panel of experts was utilized to help establish initial face and content validity. This panel included ten individuals with experience and knowledge in at least one of the following areas: student affairs, athletics, community development, survey development, and quantitative statistics. Based on the panel's analysis, eight items were removed from the CAS. Six of the items were deemed to be outcomes rather than indicators of SOC. For example, item 13 of the original scale reads, "If I am/were going to college next year, I would go here." The panel argued that this item measured student retention or intent to return, not SOC. Similarly, item 8 reads, "I someday plan to give alumni contributions to this college," which measures the outcome of intended giving, not SOC. Two items, "My parents like this college" and "Students really care about what happens to this college" were removed as they were deemed by the panel of experts to not directly indicate student SOC. The resulting 6-item measure was renamed the College SOC Scale (CSCS) (see Table 2).

Table 2 - *College Sense of Community Scale (CSCS)*

Items	Factor Loadings
SC14 - There is a real sense of community at ODU	.858
SC7 - There is a strong feeling of togetherness on campus	.829
SC2 - There is a sociable atmosphere at ODU	.893
SC11 - I feel very attached to ODU	.788
SC1 - I feel like I belong here at ODU	.787
SC4 - Students at ODU feel they can get help if they are in trouble	.593

Note: $\alpha = .87$

The final section of the survey contained eight items measuring two outcomes related to the university as a whole and two outcomes specific to the athletic department. All four of the outcome variables were measured for all respondents. Satisfaction with the university was comprised of a four-item satisfaction scale developed for this study. The items in this measure included: a) I made a good decision in selecting ODU for my education, b) I am proud to tell others that I am a student at ODU, c) I am pleased to be a part of ODU, and d) I am satisfied with my overall experience at ODU. Reliability was found to be satisfactory for the satisfaction measure ($\alpha = .95$). Retention was measured with a single item which stated: I plan to continue my education at ODU next year. Respondents were instructed to leave this item blank if they would be graduating that academic year.

With regard to the athletic department, the outcomes included Current Support for Athletics and Future Support for Athletics. Current Support was assessed with a single item indicating one's plan to attend sporting events at ODU other than football. Future Support for Athletics was measured with a single item about intention to donate to ODU Athletics in the future. The satisfaction scale and intention items were measured using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Data Analysis

To re-examine the structure of the revised six-item CSCS instrument (as listed in Table 2), both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. The sample of pre-test respondents ($N = 1,668$) was randomly split for these preliminary analyses. EFA was conducted with half of the pre-test sample using principal component analysis (PCA) with varimax rotation. The total number of dimensions was determined by the following criteria: the Kaiser criterion, Bartlett's Test of Sphericity, scree plot interpretation, factor loadings above .4, at least two items per factor, and ultimately, interpretability of the dimensions (Tabachnick & Fidell, 2007). EFA provided an initial factor structure for the CSCS instrument. Once the factor structure was finalized and interpreted, two separate CFAs were conducted using the second half of the pre-test sample data and the post-test sample data in order to evaluate the overall model fit. Overall goodness of fit was assessed using a robust chi-squared test; however, according to Hu and Bentler (1999), this test can be sensitive to sample size and should not be used exclusively in determining model fit. Therefore, standardized root mean square residual (SRMR), root mean square error of approximation

(RMSEA), and the comparative fit index (CFI) were examined to provide additional sources of fit that are widely accepted in applied research and have shown satisfactory performance in model simulation analyses. SRMR assesses absolute model fit, RMSEA examines model parsimony, and CFI evaluates the fit of researcher specified factor solution (Brown, 2006). To provide context, Hu and Bentler (1999) suggest that SRMR values close to .06 or below, RMSEA values close to .08 or below, and CFI values close to .95 or above provide evidence of an adequate model fit.

Additional validity and reliability assessments were conducted on the final CSCS factor structure. Average variance extracted (AVE) was assessed for validity-related evidence. Alpha coefficients were examined in order to assess internal consistency and reliability-related evidence.

Multiple statistical procedures were conducted to answer the three proposed hypotheses. To examine potential differences in student SOC perceptions before and after the inaugural football season (H1), a paired samples *t*-test was conducted.

To examine potential differences in post-test SOC perceptions based on game attendance (H2), a one-way ANOVA was conducted. Game attendance was broken into three categories: non-attendees, moderate attendees (1-3 games attended), and loyal attendees (4 or more games attended). Three groups were created in an effort to not only understand potential differences in perceptions/intentions between non-attendees and attendees, but to capture potential differences between students who may have only attended a game or two versus more committed fans of the football program. A violation of homogeneity of variance was identified within the data through a Levene's test ($p = .009$). Therefore, a Welch's ANOVA was conducted because it is a more conservative statistic when determining the main effects in an ANOVA procedure (Glass & Hopkins, 1996).

Once significant differences were identified, a Tamhane's post-hoc procedure was conducted to identify which of the three attendance groups significantly differed. A Tamhane's procedure was used because it is a more robust procedure that takes into account violations of equality of variance.

Finally, four multiple regression models were developed to examine the influence of SOC perceptions and football game attendance on multiple outcome variables (H3): Satisfaction, Retention, Current Support for Athletics, and Future Support for Athletics. Standard OLS regression was used for each regression equation. Multiple linear regression assumptions were examined for these equations (Linearity, Independence, Normality, and Equality of Variances). Descriptive statistics, residual plots, and statistical tests for normality and equality of variances showed that none of the assumptions were violated in the regression equations. In addition, potential multicollinearity issues within the model were examined through variance inflation factors and tolerance statistics. The results suggested there were no multicollinearity issues in either of the regression equations used in the analysis. A significance level of .05 was established a priori in analyzing the regression models and related variable correlations.

Results

Demographics

Demographics were examined for the overall sample and for respondents broken down by attendance categories. The largest group represented was moderate attendees (39.7%), followed by non-attendees (33.7%) and loyal attendees (26.6%). Overall, 67% of student

respondents were female. It also appears that the majority of moderate and loyal game attendees were female (approximately 71% and 61%, respectively). Overall, 72% of student respondents were Caucasian and average age of respondents was 22.6. These findings were fairly consistent across attendance groups. In 2009, the student population at ODU was 54% female, 57% Caucasian, and the average age was 21.9. Thus, the gender and ethnicity percentages for the sample differed from known demographics of the population; however, the average age was similar.

Overall, the most frequent respondent was in their freshman (23.8%) year of college. However, these percentages changed when broken down by attendance group. Seniors were the largest category of respondents for the non-attendees (26%) and moderate attendees (23%). Freshmen were the largest category of respondents for the loyal attendees group (27.4%). One third of overall respondents stated they currently lived on campus. This varied considerably based on attendance group. The vast majority of non-attendees lived off campus and approximately half of loyal attendees lived on campus. Approximately half (50.2%) of the students were involved with campus organizations. These results also varied based on attendance groups. Only 39.4% of non-attendees were involved with campus activities, whereas 63.6% of loyal attendees were involved in campus activities.

Campus Sense of Community Measure

The revised six-item CSCS was re-examined using both EFA and CFA techniques. The initial pre-test sample of students ($N = 1,668$) was randomly split into two samples.

Exploratory Factor Analysis

Table 2 provides EFA results for the first pre-test sample ($n = 987$). EFA identified a one factor structure, explaining 60.75% of the variance in the CSCS items. All six items that were included after researcher and expert analysis were retained in the final scale. Further, all items in the revised scale had factor loadings of .593 or above. The final CSCS structure contained 6 items loaded onto one factor. Internal consistency was subsequently evaluated to provide initial reliability-related evidence for the revised CSCS. The Cronbach's alpha coefficient was .87 for the revised scale.

Confirmatory Factor Analysis

CFA was conducted on the second pre-test sample ($n = 988$) and the complete post-test sample ($n = 866$) to verify the revised CSCS structure. A summary of the anchors, factor loadings, t -values, and standard errors for both samples in the revised CSCS structure are presented in Table 3. Results for the pre-test sample indicated that the data fit the model well. Absolute fit, parsimony correction, and comparative indices all represented a reasonable fit: $\chi^2(9) = 91.14$, $p = <.001$; RMSEA = .09; SRMR = .041; CFI = .99; NNFI = .98.

Results from the post-test CFA also indicated a satisfactory model fit providing further factor validity-related evidence for the revised CSCS. Absolute fit, parsimony correction, and comparative indices all represented a reasonable fit: $\chi^2(9) = 94.49$, $p = <.001$; RMSEA = .10; SRMR = .039; CFI = .98; NNFI = .97. Factor loadings for all items were .593 or above and all t -values were greater than 2.0. An examination of modification indices indicated the presence of correlated residuals. Allowing multiple correlated residuals to be estimated would have improved

the overall model fit, but none of these could be justified conceptually. The final model consisted of one SOC dimension with a total of 6 items.

AVE and Cronbach's alpha were examined for both CFA samples. Table 3 provides a summary of these results. AVE scores were .627 and .652 for the pre-test and post-test samples, respectively. Additionally, Cronbach's alpha coefficients were .87 and .88 for the pre-test and post-test samples, respectively. Table 4 provides an overall descriptive summary of pre and post-test mean scores for the CSCS.

Table 3 - *CFA, Reliability, and Validity Scores for the CSCS*

SOC Items	α	Factor Loadings	AVE	<i>t</i>	SE
Pre-test Sample (<i>n</i> = 988)	.87		.627		
SC14		.91		-	
SC7		.87		37.81*	.03
SC2		.81		36.90*	.02
SC11		.77		29.36*	.03
SC1		.76		33.80*	.03
SC4		.59		18.63*	.03
Post-test Sample (<i>n</i> = 866)	.88		.652		
SC14		.90		-	
SC7		.86		39.32*	.02
SC2		.82		33.14*	.03
SC11		.82		32.93*	.03
SC1		.81		30.91*	.03
SC4		.60		18.22*	.04

Note: * $p < .05$; α = Cronbach's alpha coefficient; AVE = Average variance extracted; SE = Standard error; *t* = *t*-values

Table 4 - *CSCS Scale Descriptives*

Items	Pretest		Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SC14 - There is a real sense of community at ODU	4.38	.781	4.28	.889
SC7 - There is a strong feeling of togetherness on campus	4.16	.775	4.13	.813
SC2 - There is a sociable atmosphere at ODU	4.07	.787	4.08	.740
SC11 - I feel very attached to ODU	3.63	.908	3.68	.892
SC1 - I feel like I belong here at ODU	4.10	.818	4.10	.800
SC4 - Students at ODU feel they can get help if they are in trouble	3.67	.833	3.58	.846

Note: Items Measured on a 5 point Likert-type scale

Hypothesis 1

Hypothesis one (H1) stated that SOC would increase over the course of the football season (i.e., pre to post test). Results showed there was no significant difference in SOC perceptions before and after the football season for the current sample of students. There was no difference for the sample as a whole, or for any attendance grouping (non-attendees, moderate, or loyal attendees).

Hypothesis 2

Hypothesis two (H2) stated that post-test SOC perceptions would differ based on football attendance. ANOVA results indicated a significant difference in post-test SOC perceptions between the three game attendance groups $F(2,540.09) = 23.02, p < .001$. A post-hoc Tamhane's test indicated that all three attendance groups (non-attendees, moderate attendees, and loyal attendees) significantly differed. Loyal attendees had the highest SOC perceptions ($M = 3.98, SD = .634$), followed by moderate attendees ($M = 3.80, SD = .636$) and finally non-attendees ($M = 3.57, SD = .746$).

Hypothesis 3

Hypothesis three (H3) stated post-test SOC perceptions and football game attendance would influence both university and athletics-related outcomes. Table 5 provides a summary of regression results for all four outcome variables. The first multiple regression equation examined the influence of SOC and football game attendance on satisfaction with the university. Prior to regression analysis, a Pearson correlation showed that SOC was significantly correlated with university satisfaction ($r = .744, p < .001$). The OLS regression results were found to be significant $F(3,862) = 356.07, p < .001$. The model explained 55% of the variance in satisfaction with the university. An examination of coefficients indicates that the relationship between SOC and satisfaction was statistically significant, strong, and positive. Football game attendance was not significant.

The second multiple regression equation examined the influence of SOC and football game attendance on student retention at the university. Prior to regression analysis, a Pearson

correlation revealed that SOC was significantly correlated with Retention ($r = .347, p < .001$). The OLS regression results were found to be significant $F(3,710) = 33.53, p < .001$. The overall model explained 12.4% of the variance in student retention. An examination of coefficients indicates that the relationship between SOC and retention was significant, moderate, and positive. Football game attendance was not a significant predictor of retention.

The third multiple regression equation examined the influence of SOC and football game attendance on Current Support for Athletics. Prior to regression analysis, a Pearson correlation showed that SOC was significantly correlated with Current Support for Athletics ($r = .388, p < .001$). The OLS regression results were found to be significant $F(3,861) = 145.81, p < .001$. The model explained 33.7% of the variance in Current Support for Athletics. Both SOC and game attendance were found to be significant. An examination of coefficients indicates that the relationship between SOC and Current Support for Athletics was moderate and positive.

The final multiple regression equation examined the influence of SOC and football game attendance on Future Support for Athletics. Prior to regression analysis, a Pearson correlation showed that SOC was significantly correlated with Future Support for Athletics ($r = .408, p < .001$). The OLS regression results were found to be significant $F(3,859) = 77.30, p < .001$. The model explained 21.3% of the variance in Future Support for Athletics. Both SOC and game attendance were found to be significant predictors of Future Support for Athletics. An examination of coefficients indicates that the relationship between SOC and Future Support for Athletics was moderate and positive.

In summary, SOC appears to have a moderate to strong positive influence on all four outcomes. However, game attendance only had a significant influence on the athletics-related variables (Current and Future Support for Athletics). There was no meaningful relationship between football game attendance and the university-related outcomes (Satisfaction and Retention).

Table 5 - *OLS Regression Results*

DVs	IVs	R^2	Beta	U-Beta	p -value
Satisfaction		.553			
	SOC		.741	.834	<.001
	Attendance		NS	NS	.560
Retention		.124			
	SOC		.314	.415	<.001
	Attendance		NS	NS	.199
Current Support for Athletics		.337			
	SOC		.290	.470	<.001
	Attendance				<.001
	HR1		-.511	-1.21	
	HR2		-.147	-.336	
Future Support for Athletics		.213			
	SOC		.357	.521	<.001
	Attendance				<.001
	HR1		-.268	-.572	
	HR2		-.122	-.252	

Note: SOC = Sense of Community; DV = Dependent Variable; IV = Independent Variable; Beta = Standardized beta coefficient; U-Beta = Unstandardized Beta Coefficient; NS = Not Significant

Discussion

The results of this study indicate that the introduction of football on a college campus did not foster a *change* in SOC among students (H1). This finding is in line with previous scholars that have asserted that community is not a serendipitous outcome of sport (Smith & Ingham, 2003; Swyer, 2010; Warner, 2010; Warner & Dixon, 2011, in press). That is, simply adding sport to an environment or changing the environment to include a sporting atmosphere did not enhance the SOC experienced for students (regardless of their attendance at games). Rather, previous scholars (e.g., Swyer, 2010; Warner, 2010; Warner & Dixon, 2011, in press) have maintained community develops through a set of actions often involving intentionality, leadership, decision-making, and accountability.

This lack of significant change from pre to post-test could be due to the fact that the elements necessary for fostering community were not present or that more time was needed for the necessary factors surrounding football to develop. The recreational leisure research, similar to the consumer behavior research, supports the supposition that greater exposure and experience of activities in an environment fosters the development of bonds and attachments (Hammitt, Backlund, & Bixler, 2004, 2006; Lyons & Dionighi, 2007). Perhaps one season of college

football is not enough for a greater SOC to be fostered among students. Future research should consider assessing SOC after students have had extended exposure to football on their campus.

The current results (see Table 4) suggest that SOC perceptions were greater for attendees compared to non-attendees and remained fairly stagnant throughout the inaugural football season. Overall though, one would still expect that if football were as valuable to creating community as it has been claimed, some significant increase in SOC levels would have been observed after the season. However, no significant changes were observed in this study regardless of game attendance.

Since student fees are frequently used to fund university football programs, it is often noted that a goal is to enhance SOC for students. The results of this study indicate that perceived community benefits for current students are likely overstated—at least in the short term. Conceivably, though, others could be benefiting from a greater SOC attributable to the addition of football (cf. Toma, 2003). Previous studies on college sport have suggested that athletics are a point of attachment for stakeholders such as alumni and local community members, but this literature seems to focus on image, prestige, donations, and branding and not necessarily the experience of community (Goff, 2000; Roy et al., 2008; Zimbalist, 2001). In fact, some research has suggested that the building of sport facilities for professional teams actually decreases the SOC in the surrounding neighborhood (Smith & Ingham, 2003). Future research should consider assessing the impact of the addition of football on perceived SOC for these other constituents.

The second hypothesis (H2), that those who attend more games (i.e., loyal and moderate fans) will experience greater SOC than those who do not attend (i.e., non-attendees), was supported by this research. Although a significant change was not observed for any of the attendance groups from pre to post (H1), those who attended more games reported greater SOC during the post-test. This finding can be explained both by SOC research (McMillan & Chavis, 1986; Swyers, 2010; Warner & Dixon, 2011) and fan identification research (Clopton, 2008; Heere & James, 2007), which demonstrates the importance of membership and social spaces. Those who attend more games may experience a greater sense of membership and realize the benefits of gathering in social spaces, thereby enhancing their SOC.

It also should be noted, though, that students with higher SOC levels may be more likely to attend football games. That is, students with already higher level of SOC may be more drawn to opportunities to take part in university activities, such as attending football games (Astin, 1999; Chavis & Wandersman, 1990; Tinto, 1993). This finding deserves further attention in future research.

From a practical standpoint, this particular finding suggests that the addition of football does not necessarily foster community for a university, but that game attendance could be helpful for fostering community. Consequently, if university administrators truly desire to enhance the SOC experienced by students, they should consider focusing on creating attendance opportunities for these constituents. It is not sport and the addition of football that create community, but rather the management of sport spectating opportunities that has the *potential* to create community (Chalip, 2006; Warner & Dixon, 2010, in press). Managing sport in a way that provides opportunities for all (or at least more) students to feel invested (through leadership, decision making, social spaces, etc.) is essential if university administrators want to accurately claim that sport and the investment in sport works to foster a SOC for students (Swyers 2005, 2010; Warner, 2010; Warner & Dixon, 2011, in press).

The results of H1 and H2 indicate that the introduction of football on ODU's campus has not yet enhanced the SOC for *all* students. While this could change with campus exposure to

football over time (Hammitt et al., 2004; 2006; Lyons & Dionighi, 2007), the extant literature still provides little evidence that directly ties football itself to a heightened SOC for students. Consequently, university administrators should use multiple approaches to enhancing SOC (see Boyer, 1990; Hausmann et al., 2007), and carefully consider the high dollar decisions to add a football program.

The third hypothesis (H3) that SOC would be positively related to both athletics and university outcomes was supported by this research. These findings endorse previous research that SOC is associated with numerous and broad-based positive outcomes for individuals (e.g., Battistich & Hom, 1997; Chavis & Wandersman, 1990; Hausmann et al., 2007; McCarthy et al., 1990; Warner, 2010). Interestingly, while both game attendance and SOC directly predicted athletics outcomes, only SOC significantly predicted university outcomes. This finding suggests that perhaps the relationship between game attendance and university outcomes is not direct, but may be partially or fully mediated by SOC. That is, game attendance may only influence university outcomes to the extent that SOC is enhanced by game attendance. Such an argument would be supported by Elliot's (2002) work that concluded sense of belonging and campus climate, not campus life (which would include sport spectating), predicted student satisfaction.

The fact that a direct relationship was not observed between game attendance and university retention and satisfaction is somewhat surprising in light of Astin's Theory of Involvement. In fact, Astin's (1984) work specifically mentions "athletic involvement" and university satisfaction. Astin's work, however, was referring to active sport participation. Based on this study it seems that athletic involvement via the more passive sport spectating and fanship does not engage a student enough to impact university outcomes (cf. Lim et al., 2011). In this case, universities should seek to employ a *variety of methods* (including but not limited to quality fan engagement experiences) to enhance overall student SOC. The more nuanced relationship of game attendance, SOC, and broader university outcomes needs further exploration.

In practical terms, student affairs personnel can benefit from this research in two important ways. First, this research highlights the important relationship between SOC and university satisfaction and retention. Student affairs personnel should continue to find ways to enhance SOC if they desire to see improvements in student outcomes (Battistich & Hom, 1997; McCarthy, Pretty, & Catano, 1990; Warner & Dixon, 2011, in press). Second, this research suggests that passive sport spectating in and of itself is not enough to enhance a SOC for students, even for those who attend the games. It is therefore suggested that student affairs personnel consider ways to engage students in the sport spectating experience. Pep rallies, tailgating, TV viewing parties for those who cannot obtain tickets, and post-game parties are some of the ways student affairs personnel have attempted to engage students. Based on this research it seemed as though spectating is not enough and more student involvement in the activities is need (cf. Lim, et al., 2011).

In summation, this study suggests that while SOC remains important to both athletic departmental and university-related outcomes, in the short term the introduction of a football program does not foster a greater SOC for *all* students. If football has any impact on SOC, it requires active involvement and engagement through attendance at games. The study challenges the popular rhetoric universities use when seeking funding for costly football programs, and suggests that perhaps adding a football program in and of itself is not enough to directly impact students' SOC. While it was noted that game attendees did report higher levels of SOC, and that these higher levels of SOC impact important outcomes, future research needs to continue to

probe how SOC is fostered, and under what conditions football may be a part of the broader and more complex community building process.

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Footnotes

- ¹ During the inaugural 2009 season, ODU football recorded a 9-2-0 record.